

Electrifying a council vehicle fleet (and a whirlwind of related matters)

Sigurd Magnusson







#6 on Trending

Before the Flood - Full Movie | National Geographic



National Geographic

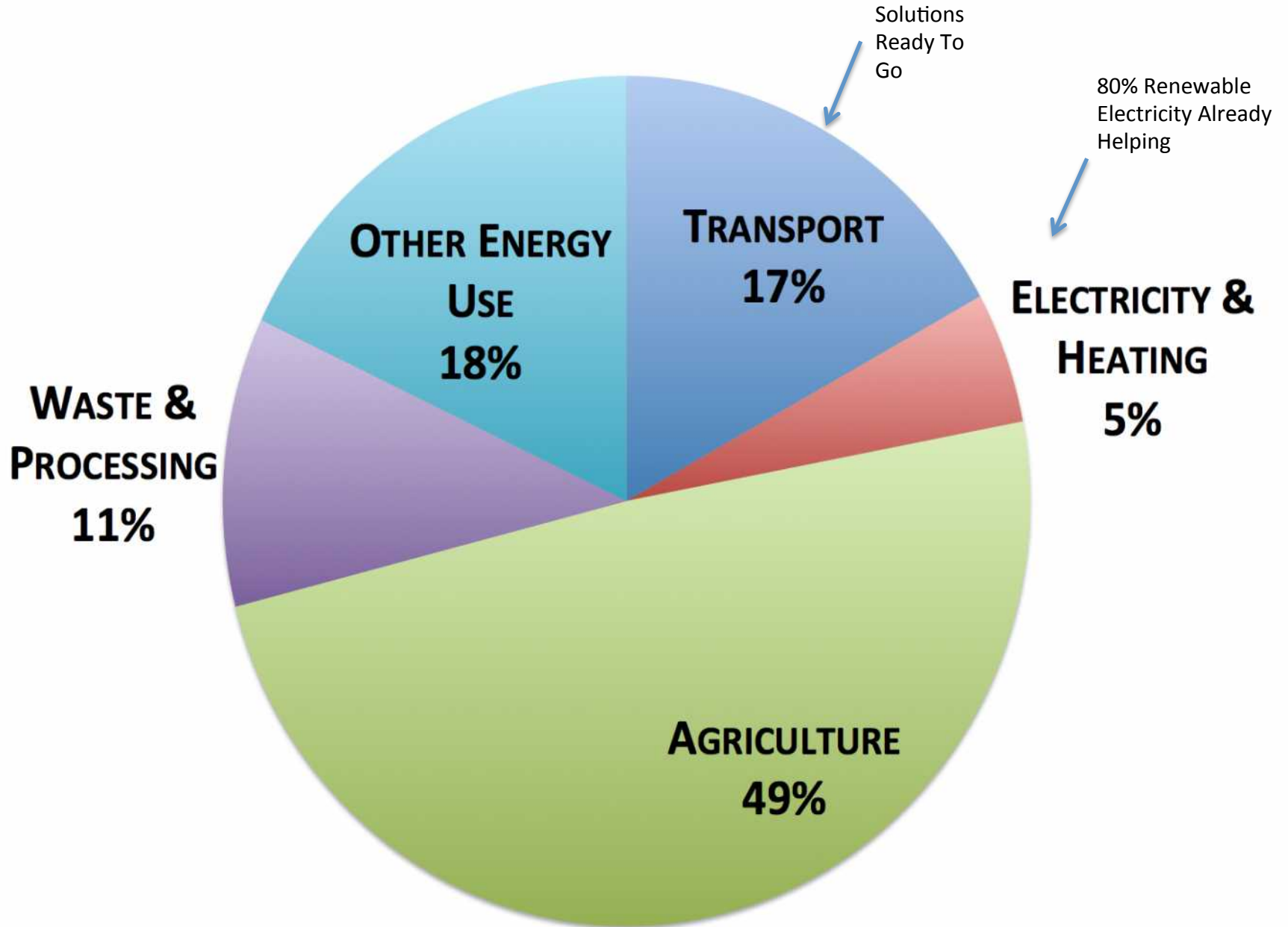

Subscribe 5,298,182

10,728,713 views

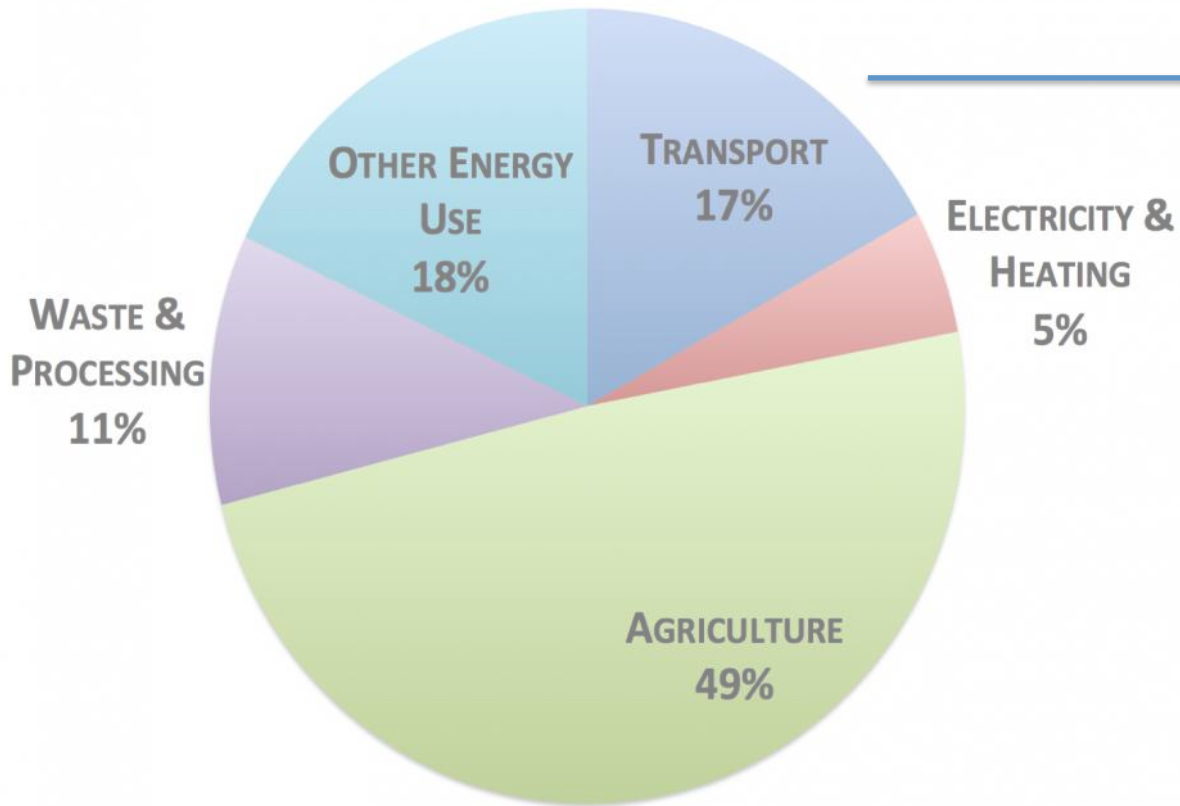
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 284,219
  9,833

NZ Greenhouse Gas Emissions 2014



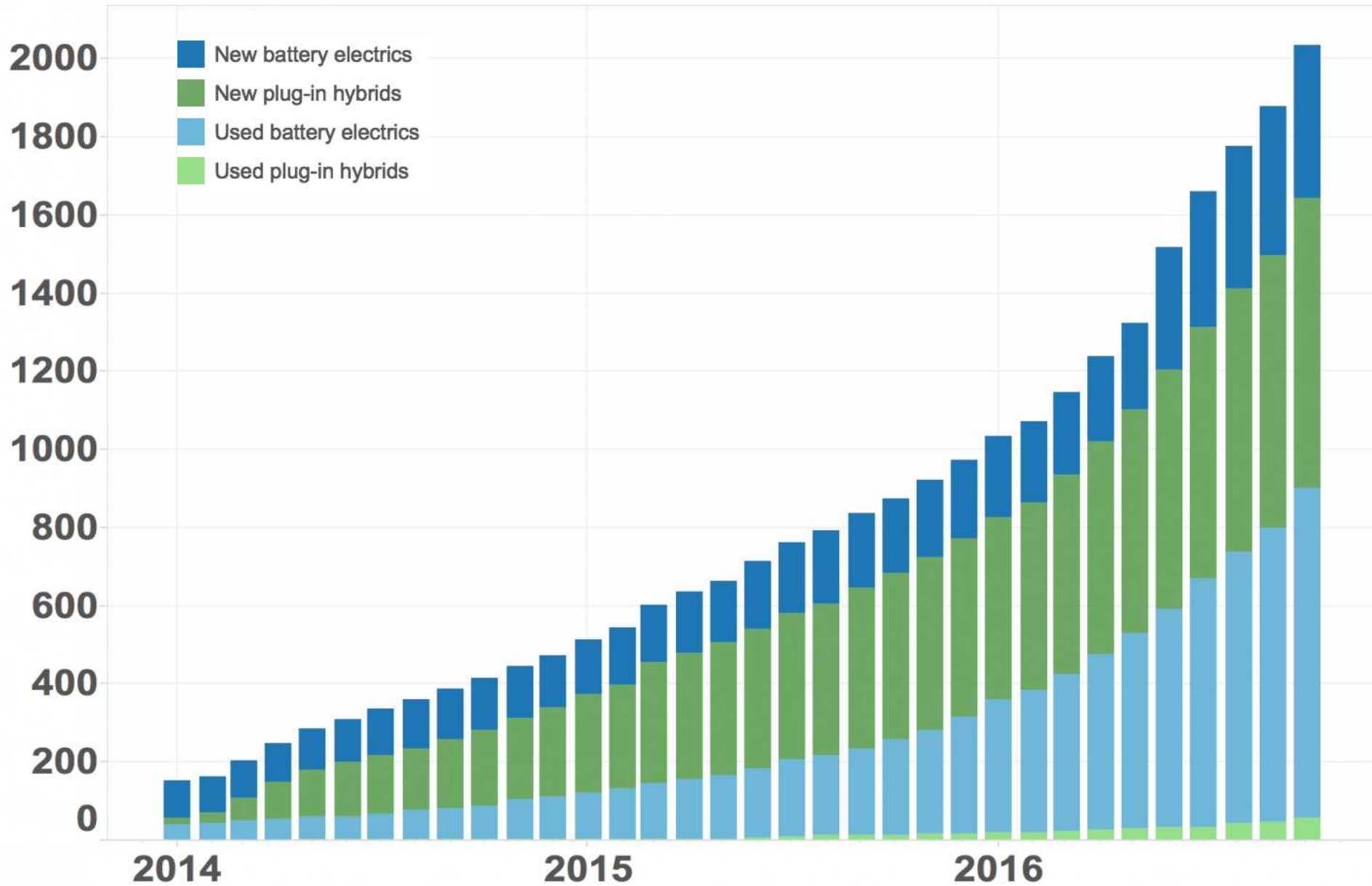
NZ Greenhouse Gas Emissions 2014



Road transport is **38%** for Auckland

and **35%** for Wellington

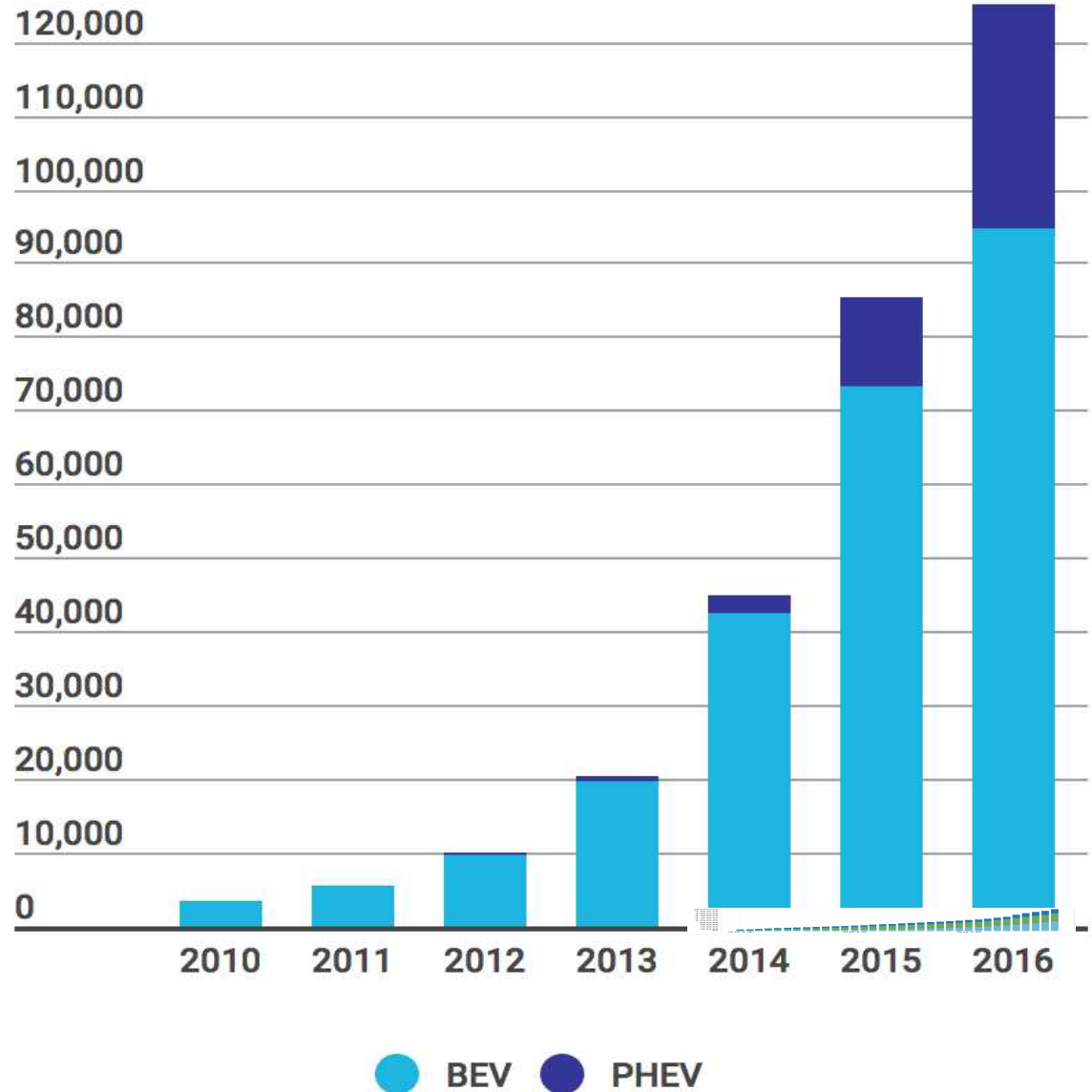
New Zealand Electric Vehicle Numbers (www.transport.govt.nz)



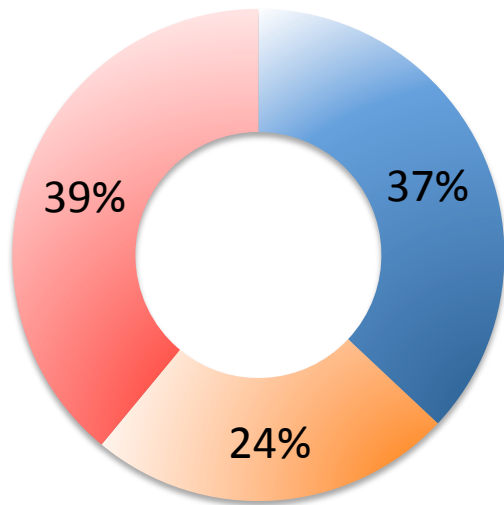
New Zealand Electric Vehicle Numbers (www.transport.govt.nz)



Norway's Electric Vehicle Numbers

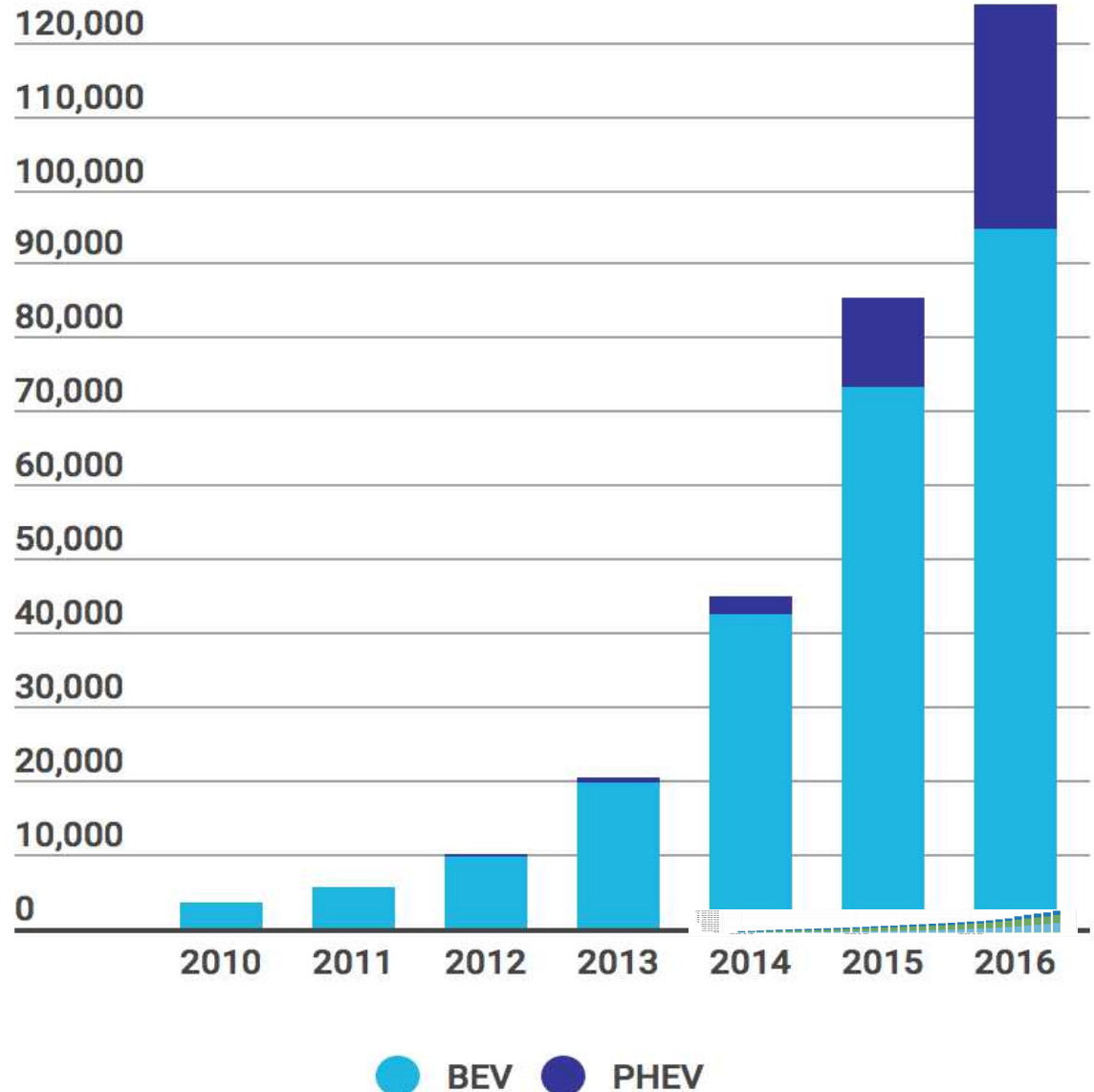


Norway Car Sales 2016



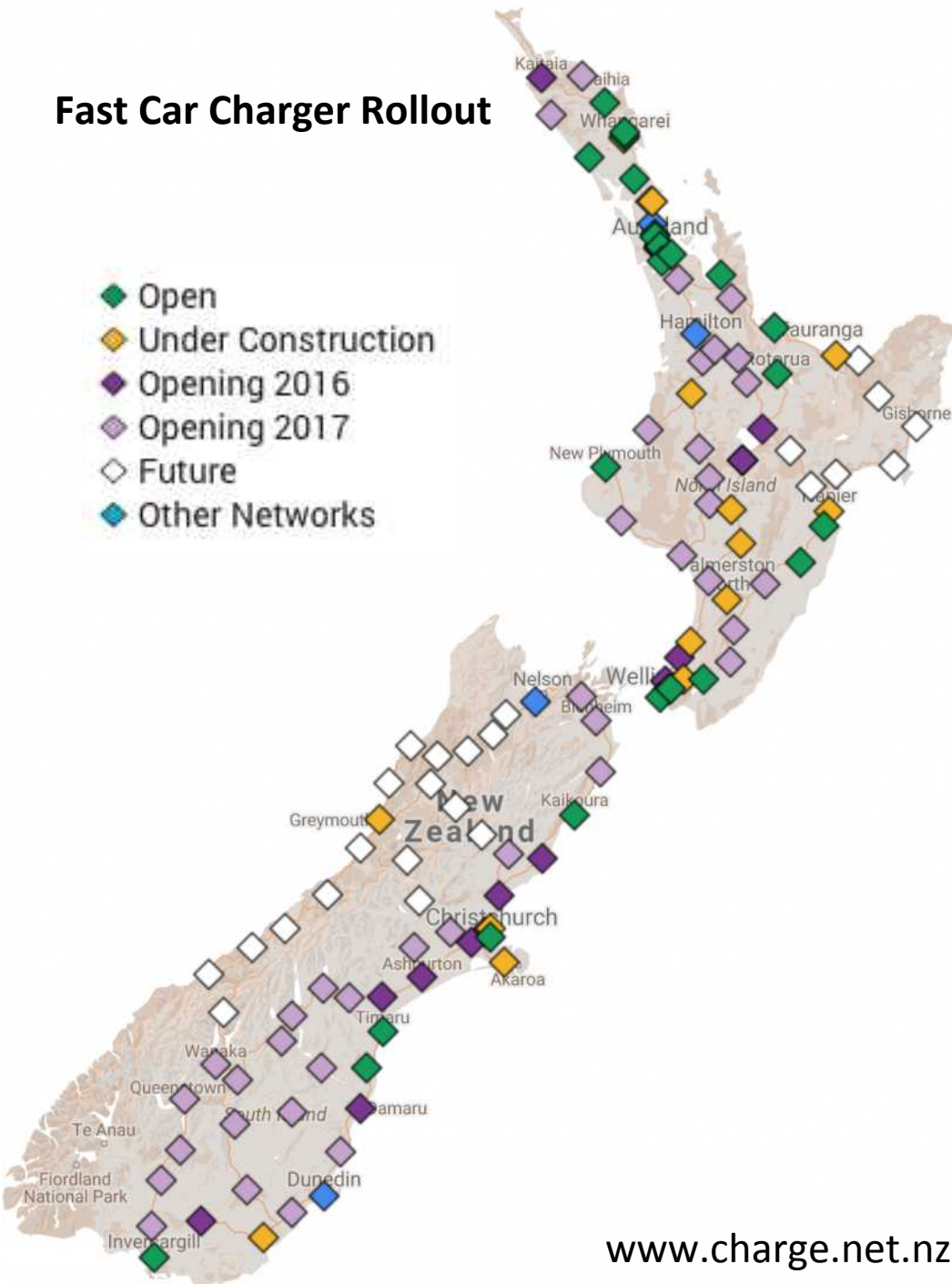
- BEV + PHEV
- Hybrid
- Fuel Only

Norway's Electric Vehicle Numbers



Fast Car Charger Rollout

- ◆ Open
- ◆ Under Construction
- ◆ Opening 2016
- ◆ Opening 2017
- ◇ Future
- ◆ Other Networks



www.charge.net.nz



Bored?

**SPINACH
ICE CREAM**



Tesla Model X Pulling Trailer vs Alfa Romeo 4c



▶ ⏪ 🔊 1:47 / 3:19



An electric car still wins a race while towing its competition – a two-tonne handicap

What is the cost of driving an electric car 5000 km?



What is the cost of driving an electric car 5000 km?

\$100

(Home / Workplace)



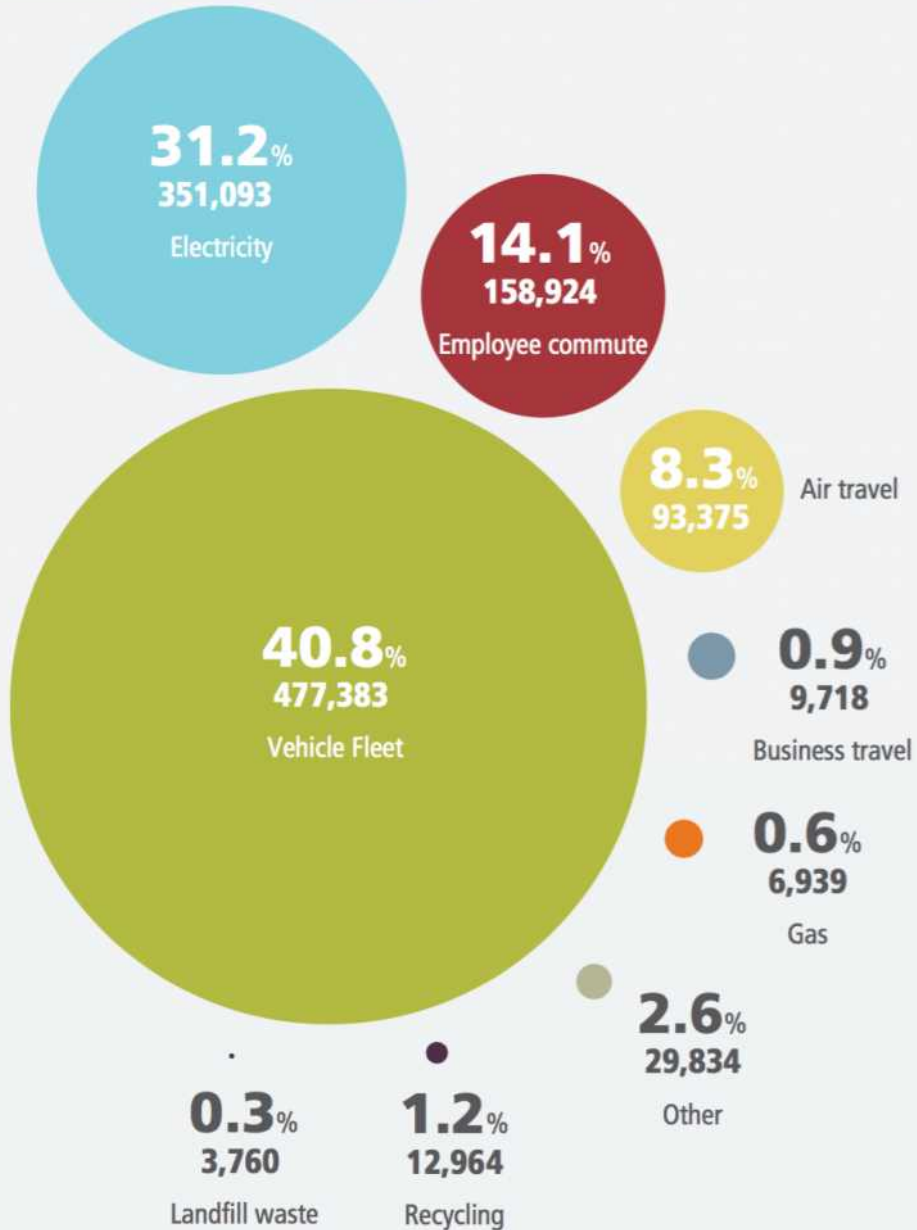


tesla.com/autopilot

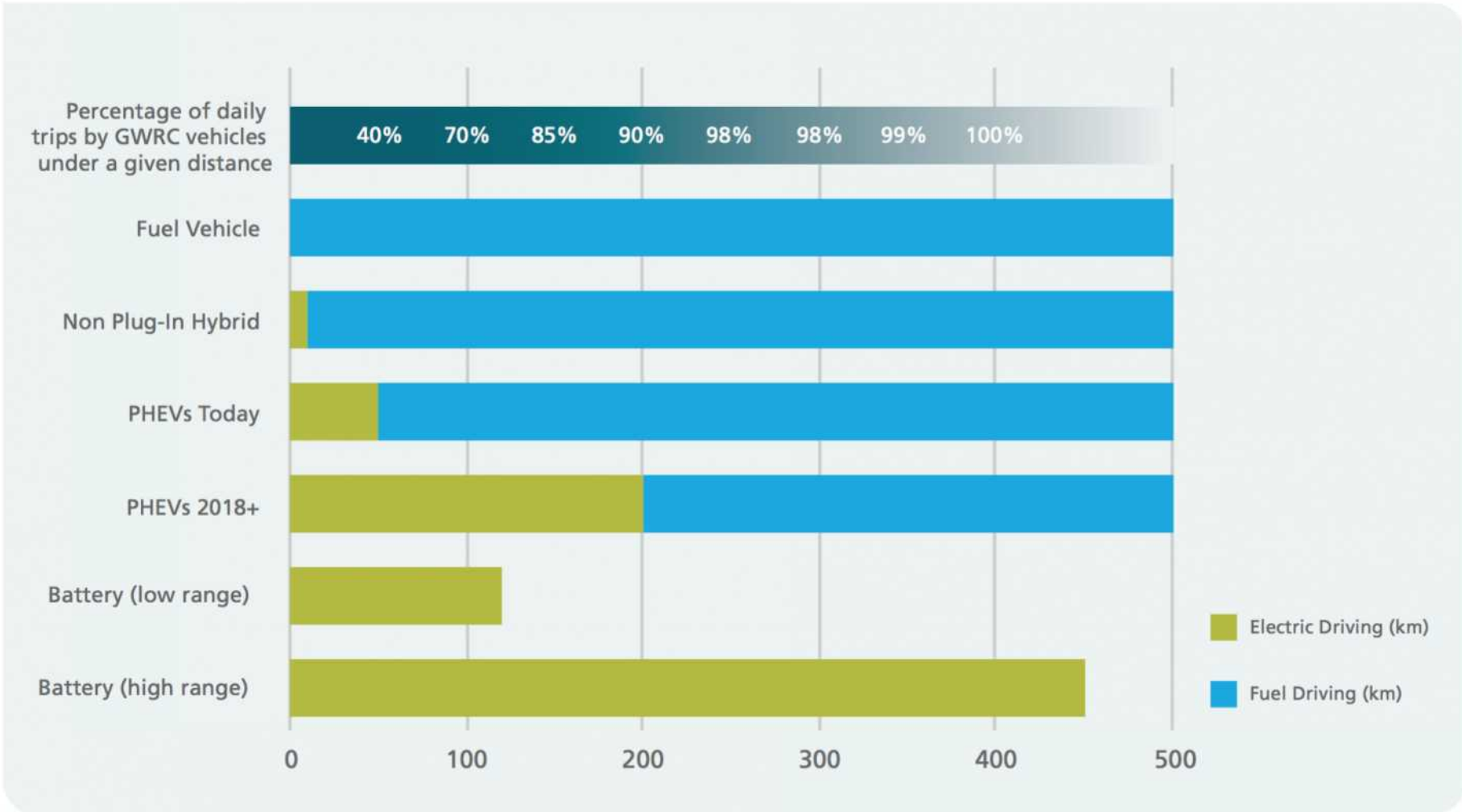
So, about that policy ...



GWRC Corporate emissions (kgCO_{2e})



Comparison of how far different vehicles can drive before recharging or refueling:



USA: USD30k gets you a 300km electric (New 60kWh Chevy Bolt)
Here: NZD35k gets you a 150km electric (Used 30kWh Nissan Leaf)

Bit of a challenge.



Area served by the Greater Wellington Regional Council, showing population and our major offices and most-visited parks



GWRC VISITORS



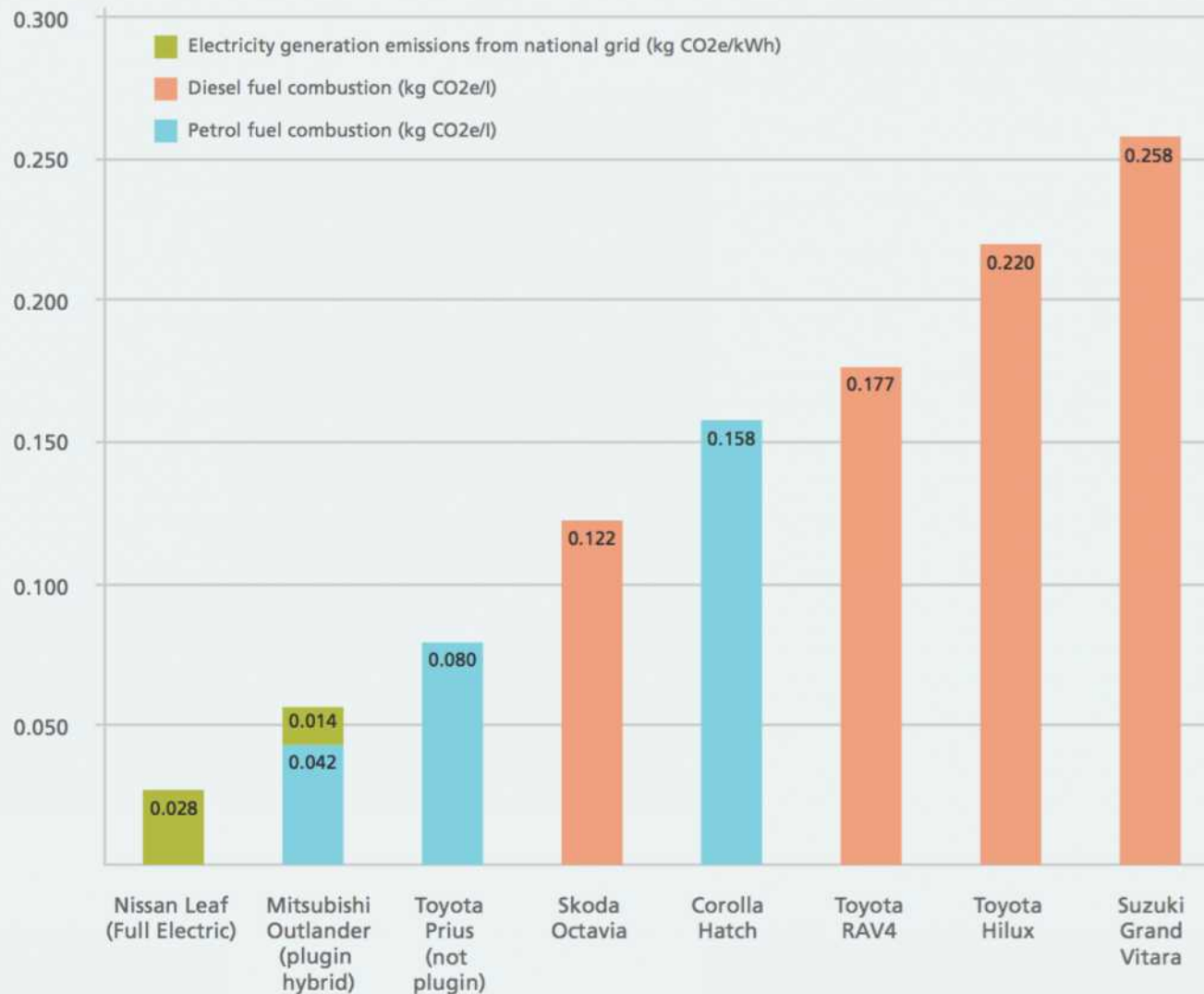
G18

G17

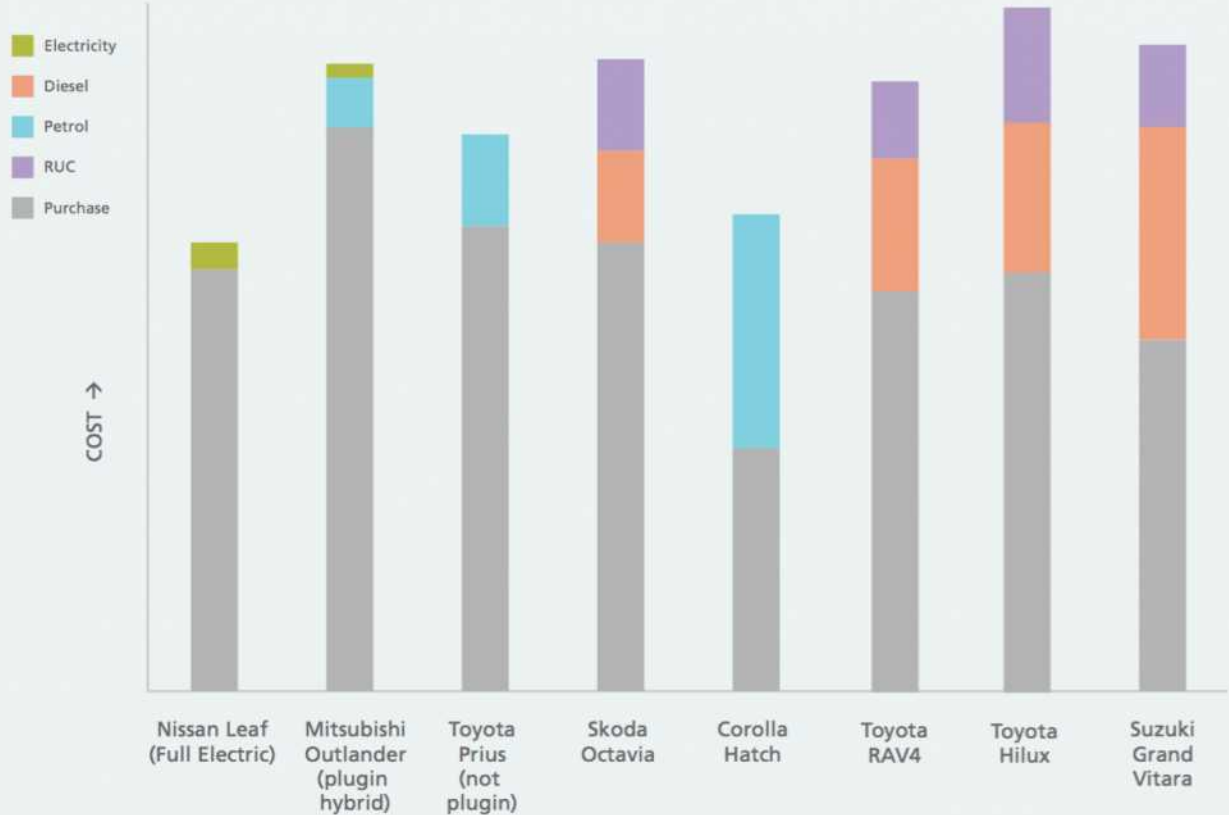


Indisputable benefits

Emissions (lower is better). kg CO_{2e} per km driven



Total cost of vehicle at 120,000km (Lower is better)



Prices exclude residual value, and are new from AoG catalogue except for Nissan Leaf which is used.

Keep vehicle long enough for low running costs to offset purchase premium
(We increased purchase budget by \$10,000+ without increasing lifetime costs)



Staff test drives are crucial for support

Resulting in a change of default ...

1

Electric Vehicle First



2

If not fit for purpose (eg. more range is needed) then buy a Plug-in Hybrid / Range extended battery vehicle



3

If not fit for purpose (eg. no open-tray electric ute) then buy a Non Plug-in Hybrid, or a Fuel Vehicle



Resulting in a change of default ...

1 Electric Vehicle First



2 If not fit for purpose (eg. more range is needed) then buy a Plug-in Hybrid / Range extended battery vehicle



3 If not fit for purpose (eg. no open-tray electric ute) then buy a Non Plug-in Hybrid, or a Fuel Vehicle



How Greater Wellington Regional Council is electrifying its vehicle fleet.

An information paper for vehicle fleet managers about electric vehicles, charging infrastructure, and practical ideas on how to transition a fleet to electric.



October 2016
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Download vehicle policy text, information paper, action sheet


Google “Greater Wellington Electric Vehicles”

www.gw.govt.nz/electric-vehicles/

Land Transport Rule: Traffic Control Devices 2004 - Traffic Signs (May 2016)

Pursuant to subclause 4.4(4) of the Land Transport Rule: Traffic Control Devices 2004 and a delegation from the NZ Transport Agency, I, Glenn Bunting, Network Manager, authorise the use of the symbols described in the Schedule to this notice on parking signs and motorist service signs.

Schedule

R6-2S Symbol used on R6 parking signs			
Electric vehicle charging			
<i>A parking place with a charging station, reserved for electric vehicles to charge their batteries.</i>			
Description	Use	Colour	Dimensions
	R6-2C	White on blue background	Symbol centred within a rectangle 200 × 100mm Symbol 100 × 100mm

A20-S Motorist service symbol (used on motorist service signs)			
A20-S22 Electric vehicle charging station			
<i>Indicates a place where a charging station for electric vehicles is available.</i>			
Legend	Description	Colour	Size
	"Symbol of an electric plug and cable connected to a charging station with the letter 'E' above the letter 'V'"	White on blue background	300 × 300mm

Note 1: The white symbols and blue backgrounds for parking and motorist service signs may be reflectorised.

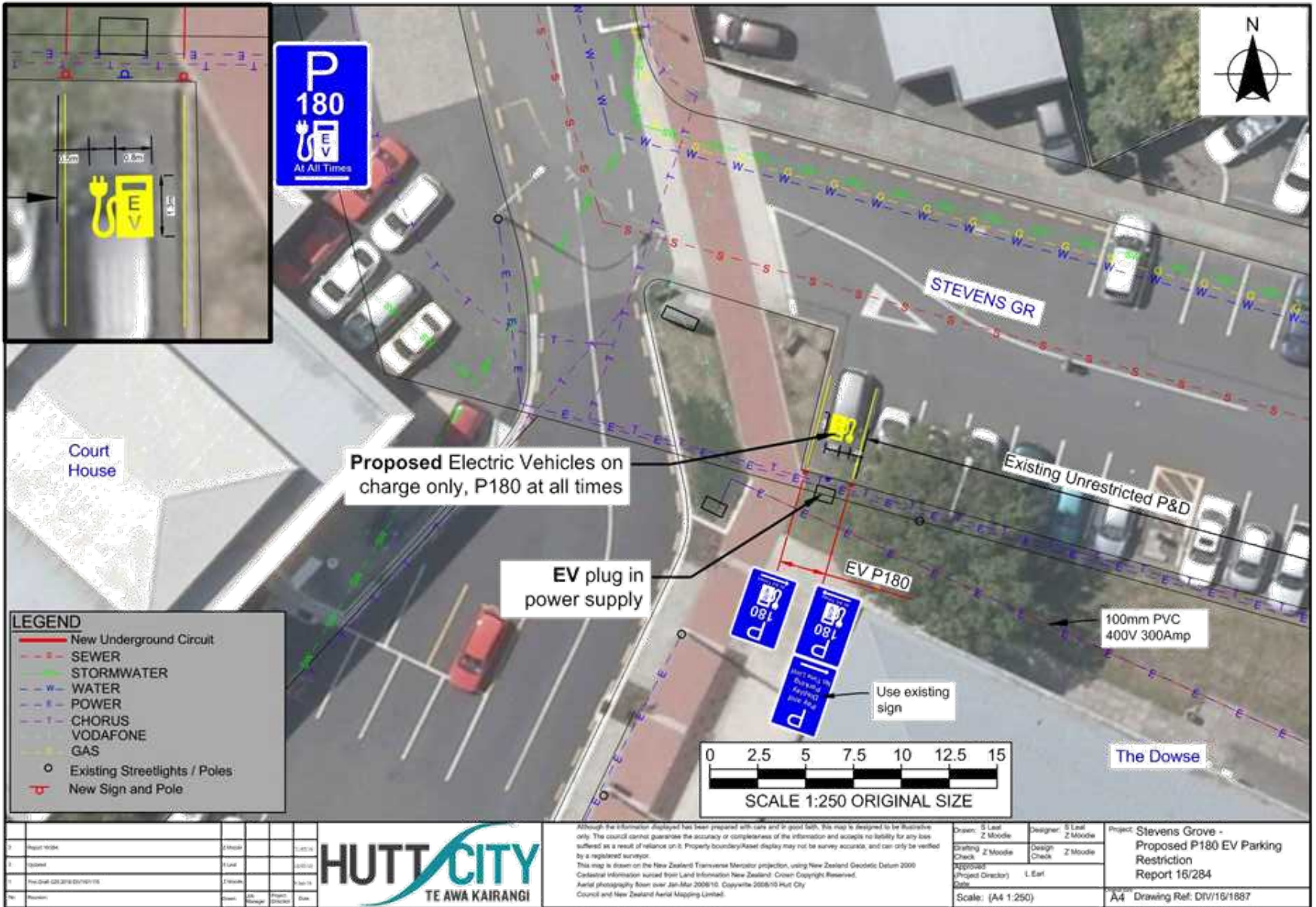
Note 2: The dimensions, descriptions and terms contained in this notice conform with the opening notes in Schedule 1, Land Transport Rule: Traffic Control Devices 2004.

Example: Motorist service sign



Signed at Wellington this 2nd day of May 2016.

GLENN BUNTING, Network Manager.



Expect, assist, encourage the designation of roading for electrified parking

How can you help?

CLASS OF METHOD	METHOD	SITUATIONS IN WHICH METHOD IS MOST APPROPRIATE
REGULATE	BYLAW	Where there is a yes/no answer e.g. parking offences.
	DISTRICT PLAN STANDARD	Used with rules to control the effect of a measurable factor e.g. height.
	DISTRICT PLAN RULE	Where it is necessary to determine whether an activity is permitted, or a resource consent must be sought.
	DISTRICT PLAN POLICY	To state Council's position on a resource management issue.
	COUNCIL POLICY	Where Council can provide leadership by its own actions.
DO NOTHING	DO NOTHING	All properties are subject to rates, general bylaws etc. This category means that the Council has no other specific policy or rule on an issue.
ENCOURAGE	PROMOTION	Where the community can be encouraged to develop higher standards e.g. through guidelines.
	FINANCIAL INVESTMENT BY COUNCIL	Where there is a clear public function e.g. the upgrading of roads and parks.
	COUNCIL FINANCIAL INCENTIVE	Where there is community benefit from a private action e.g. through grants to community groups.

Thank you!



Happy to take questions and offer advice

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